

DOCUMENT RESUME

ED 189 779

EC 124 503

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TITLE Effects of Teacher Conceptual System and Two Pupil Variables of EMRs on Attitudes Toward Integration.
PUB DATE May 78
NOTE 29p.: Paper presented at the Annual International Convention of The Council for Exceptional Children (56th, Kansas City, MO, May, 1978).
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Behavior Problems; Elementary Secondary Education; Exceptional Child Research; *Mainstreaming; *Mild Mental Retardation; Personality Traits; Racial Factors; *Teacher Attitudes; *Teacher Characteristics

ABSTRACT

An investigation was undertaken with 454 regular classroom teachers to explore the effects of a personality construct (i.e., abstract vs. concrete) and educable mentally retarded (EMR) pupil variables of race and school behavior on teachers' attitudes toward mainstreaming. Following the administration of the Conceptual Systems Test, Ss were given a randomly assigned EMR profile which held pupil IQ and school achievement constant while varying pupil race and school behavior. Results of data analysis showed that EMR children with behavior problems were not generally welcomed by teachers into the regular classroom, that Caucasian EMR students were welcomed more favorably by concrete teachers, and that Black EMR students were more acceptable to abstract teachers. (Author/PHR)

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EFFECTS OF TEACHER CONCEPTUAL SYSTEM AND TWO PUPIL
VARIABLES OF EMRs ON ATTITUDES TOWARD INTEGRATION

A paper presented at the 56th Annual International
Convention of the Council for Exceptional Children,
Kansas City, Missouri May, 1978

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An investigation was undertaken with 454 regular classroom teachers to explore the effects of a personality construct (i.e. abstract vs. concrete) and EMR pupil variables of race and school behavior on teachers' attitudes toward mainstreaming. Following administration of The Conceptual Systems Test (Harvey and Hoffmeister, 1971), the teachers were given a randomly assigned EMR pupil profile which held pupil IQ and school achievement constant while varying pupil's race and school behavior. This profile was read and responded to on an integration inventory developed by Watson and Hewett (1976). The results of a MANOVA analysis yielded a significant overall effect on the behavior variable while a series of ANOVAs indicated a significant personality - EMR pupil's race interaction on all inventory dimensions. Suggestions for alterations in inservice training for regular classroom teachers were offered by the authors.

Due to the increased emphasis in the instructional integration of educable mentally retarded in the regular classroom, school administrators are faced with difficult decisions relative to the most appropriate and efficacious selection of regular classroom teachers to instruct the mildly mentally retarded, as well as how to eventually prepare all teachers to serve the mildly handicapped. Presently there is a void in objective methodology concerning the successful match of teacher and the exceptional student and the preparation of all regular classroom teachers to adequately meet the selection criteria of those teachers who are already capable of meeting the instructional requirements of the educable mentally retarded. Administrators need substantiated, unequivocal rationale for either the placement or preparation decisions.

Since it has been well accepted that the attitudes and understandings teachers have about handicapped children are highly influential in determining the social, intellectual, and emotional adjustment of the children, teacher attitudes toward them have been investigated in numerous studies. Ostensibly, attitude studies have told us little, if anything about teachers' actual classroom behavior, therefore extremely limiting

their educational utility. This conclusion prompted the necessity of employing a different research perspective in the area of teacher attitudes and the instructional integration of the educable mentally retarded.

The focus behind attitude research is primarily to predict behavior. If classroom behaviors of teachers were predictable and classifiable according to some stable intraindividual difference variable, an investigator could measure attitudes by paper and pencil procedures while utilizing the difference variable to account for a set of classroom behaviors. The crux of the problem was to find such a variable and an accompanying measurement device that would yield such behavioral information in a relatively short period of time and do so in an unobtrusive manner. The construct of conceptual systems met all the criteria established for the project.

Conceptual systems is an individual difference variable that appears to be especially potent in predicting teacher behavior in the classroom. A conceptual system is a personality dimension which concentrates on distinctions between abstract and concrete individuals. Those who are more abstract as compared to concrete teachers tend to have a more child-oriented, individualized teaching style, a more flexible approach to adaptations in curriculum, and produce a more

positive classroom environment. Knowledge of teachers' conceptual system, obtained through a short paper and pencil test, has been demonstrated to be highly reliable in accurately predicting these types of teaching behaviors. The major premise of this investigation was that when administrators had at their disposition the knowledge of teacher conceptual system as well as an indicator of the teachers' attitudes toward the instructional integration of the educable mentally retarded, they would be able to do two things: 1) make more objective and successful placements of these children; and 2) facilitate identification of teaching personnel in particular need of in service preparation relative to pupil integration.

The purpose of this study was to investigate teachers' conceptual systems as they relate to attitudes toward the successful integration of the educable mentally retarded and to further explore the relationship between teachers' attitudes toward successful integration of educable mentally retarded and certain pupil characteristics such as race and school behavior.

Method

The subjects were 454 regular classroom teachers, 199 at the elementary (K-6) level and 255 at the secondary (7-12) level. They represented eight districts and thirty-one schools in two large metropolitan areas

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each with a population of over one million people. These districts and schools were similar in their proportion of black and caucasian students and were approximately at the same stage of instructionally integrating or mainstreaming exceptional children into the regular classroom program.

Following the administration of the conceptual systems test developed by Harvey and Hoffmeister (1971), which classified each subject as concrete or abstract, the subjects were randomly assigned a hypothetical profile of an educable mentally retarded male student. Four different profiles were generated with the student's race and school behavior varied while IQ achievement, and academic performance characteristics were held constant. After reading the pupil profile, subjects responded to a modified version of the Learning Handicapped Integration Inventory designed by Watson and Hewett (1976). The instrument assessed teachers' expressed beliefs toward the profiled pupil's potential successful instructional integration into their regular classroom along three dimensions: effects on the teacher, effects on the pupil, and the effects on the other children.

Analysis

Since there were four pupil profiles composed of one of two racial groupings (i.e., black and caucasian) and one of two descriptions of school behavior (i.e. adaptive and non-adaptive), as well as each teacher being classified in one of two conceptual systems, each subject upon completion of the two measurement instruments was fitted into one of the $2 \times 2 \times 2 = 8$ cells of the experimental design. All items on the attitude scale were submitted to principal axis factor analysis to establish factor loadings for possible sub-scale clusters. This procedure allowed the data to be considered for multivariate analysis of variance (MANOVA) for the three factor design (conceptual system x race x school behavior) on the sub-scale dimensions of the attitude instrument. Spearman-Brown tests were then applied to the items in the sub-scale clusters to determine coefficient alpha reliabilities. This test was further applied to all 39 items of the Learning Handicapped Integration Inventory to establish total scale reliability.

Results:Factor Analysis

The factor analysis of the LHII was done in three stages: 1) the computer was allowed to generate its own factor loadings; 2) three factors were generated according to the number of sub-scales postulated in the

original attitude instrument; and 3) two factors were generated according to the author's alternate conceptualization of the LHII dimensions. The first stage analysis yielded nine factors with eigenvalues ranging from 11.85 to 1.01 and a cumulative portion of the variance of .65. The second and third stages of factor analysis supported the conclusion that the first three factors accounted for .43 of the cumulative portion of the variance. A decision was made to retain the first three factors and eliminate the remaining six based on an eigenvalue cut-off point of 2.0.

The 39 items of the LHII which had a factor loading of .40 or greater were used to represent each factor. Utilizing this procedure, factor one contained 14 items factor two had 14 items, and factor three included 6 items. Five items from the LHII did not load at .40 or better with any of the three factors and were dropped from further analysis.

Of the 14 items that loaded on factor one, 5 items were components of the original LHII teacher sub-scale, 7 items were from the LHII other children scale, and 2 items were from the child scale. Factors two and three also evidenced similar dispersion of the sub-cluster items from the projected LHII dimensions. The items by necessity then, were reconceptualized according to their redistribution to one of the three factors generated by the factor analysis.

Factor one was defined as including items which tapped teacher perceptions of the effect of instructional integration of the EMR pupil on the social and emotional dynamics in the classroom. The first sub-scale was identified as the Social-Psychological Classroom Environment. Factor two was subsequently defined as containing items that related to the human potentiality, humanistic orientation, and optimal personal growth possibilities of classroom members. This sub-scale was labeled as the Self-Actualization component. Items on factor three appeared to tap the teachers' perceptions of the integration effects on stability, unity, and identity of the classroom membership. Accordingly, the third factor was labeled Classroom Cohesiveness.

Instrument Reliability

Reliability coefficients were determined for the total scale of the LHII utilizing 454 subjects and 39 items. Coefficient Alpha for the total scale was 0.925.

insert TABLE 1 about here

With 20 items in part one and 19 in part two, the unequal length Spearman-Brown test yielded an alpha of 0.887 for part one and 0.846 for part two. The items on the Social-Psychological Classroom Environment dimension

produced an alpha of 0.868 and a split-half reliability of 0.838. The alpha for the Self-Actualization component was 0.888 and an equal length coefficient of 0.836. The items on the Classroom Cohesiveness scale yielded a coefficient alpha of 0.722 and a split-half reliability of 0.756.

Multivariate Analysis of Variance (MANOVA)

The partial correlation coefficients among the dependent variables were .59, .61, and .43, all significant at $P > .0001$. This procedure validated the use of MANOVA with the independent variables of teacher conceptual system, pupil race, and pupil school behavior. The MANOVA test criteria for the hypothesis of no overall systems effect using the Hotelling-Lawley Trace was validated ($df = 3/413$, $F = 1.02$, $P = 0.38$). An identical procedure for pupil race yielded support for the null hypothesis ($df = 3/413$, $F = 0.58$, $P = 0.63$). The null hypothesis was rejected for an overall behavior effect ($df = 3/413$, $F = 70.31$, $P = .0001$).

Analysis of Variance (ANOVA)

Since there was a significant overall effect on the behavior variable, a series of ANOVAs were undertaken for each independent variable on each component of the LHII.

 insert TABLE 2 about here

On factor one there was a significant effect for behavior ($df = 1/415$, $F = 126$, $P < .0001$) and system x race ($df = 1/415$, $F = 5.08$, $P < .02$).

insert TABLE 3 about here

Factor two yielded a significant effect for behavior ($df = 1/415$, $F = 16.3$, $P < .0001$) and system x race ($df = 1/415$, $F = 4.60$, $P < .03$).

insert TABLE 4 about here

On factor three only a significant system x race effect was noted ($df = 1/415$, $F = 5.56$, $P < .01$).

As the ANOVAs yielded significant effects on each of the three dependent variables the means between levels of the significant main effects of pupil behavior and interactions of system x pupil race were investigated to determine the cause of the findings.

insert FIGURES 1 & 2 about here

On the Social-Psychological Classroom Environment component, the means were 43.3 and 56.4 respectively for bad and good pupil behavioral descriptions while means for concrete versus abstract teachers with black and caucasian pupils were 48.6, 51.4, 50.9, and 48.4.

 insert FIGURES 3 & 4 about here

On the Self-Actualization factor, means for the behavior effect were 46.9 and 52.1 while the system x race interaction means were 48.3, 51.4, 51.2, and 47.7.

 insert FIGURE 5 about here

The means for the system x race interaction on the Classroom Cohesiveness dimension were 23.1, 25.5, 23.8, and 23.2, respectively.

Discussion

The LHII originally developed by Watson et al. (1976) appeared to demonstrate certain underlying constructs relative to classroom teachers' perceptions of the effects of instructional integration of an EMR child into the regular classroom. These sub-scale dimensions, developed by the authors of the LHII.

while providing strong face validity, failed to subject the various constructs to more sophisticated analysis to substantiate their a priori contentions. Factor analysis in the present study provided face validity as well as construct validity to the revised sub-scales of the Social-Psychological Classroom Environment, Self-Actualization, and Classroom Cohesiveness.

Of the three independent variables investigated in the study, teacher conceptual system, EMR pupil race, and EMR pupil behavior, the manipulated variation in the pupil's behavior created significant differences in teachers' attitudes toward mainstreaming the EMR child into the regular classroom. The profiled child who was described as being subject to overt outbursts of frustration, unable to adhere to school or classroom rules and regulations, and a "discipline problem" was distinctly perceived as a less welcome addition to the regular classroom population. The EMR child with behavior problems would likely exacerbate the problems that regular classroom teachers face on a daily basis in reference to the Social-Psychological Classroom Environment: scapegoating, parent complaints, student motivation, referrals to the administrator, and peer-group interactions. Basically, teachers in this study appeared to see the EMR child with such a behavioral profile as a serious threat to the social and psychological

characteristics that are necessary for a conducive environment in which learning occurs.

EMR pupil behavior also affected the subjects' perceptions of the effects of instructional integration on the potential of each class member to maximize his growth in the cognitive, social, and emotional domains. Mainstreaming an EMR child who had behavior problems led to this sample's perceptions of decreased student motivation and teacher competence, social intolerance, and lowered life chances for the integrated student. All the participants in the mainstreaming process (e.g. administrators, teacher, the disruptive EMR pupil, and the other students) were perceived by the subjects to suffer the ill effects on the self actualizing components inherent in the educational process.

Aside from the behavioral perspective, the abstract as opposed to concrete teachers appeared to practice a unique form of reverse discrimination in regard to the instructional integration of caucasian or black EMR male pupils. While caucasian EMRs were welcomed more favorably by concrete teachers, black EMRs were more acceptable to abstract teachers. The instructional integration of the racial minority student was seen by the abstract teachers as a more favorable impetus in improving the social and psychological classroom environment, augmenting the

facilitation of the classroom memberships' orientation to maximal personal growth, and creating stronger unifying bonds within the classroom membership. Concrete teachers, on the other hand, perceived the mainstreaming of the caucasian EMR student as being more acceptable in attempting to create the same effects. More abstract teachers could be sensitive to the social influences in our culture, civil rights, and expanding legislation for the handicapped in the areas of education, housing, and employment. When a racial minority is involved in the mainstreaming process, the abstract teacher appears more flexible and adaptive to the EMR child's transition from special education to the regular classroom. By perhaps visualizing the integration process of the minority student into the regular classroom as a microcosm of the process in society-at-large, the abstract teacher appears more willing to perceive himself as a social change agent and facilitator for racial harmony and interindividual acceptance. The concrete teacher seems less likely to assume such a responsibility and subsequent role. While the present study did not support the contention that the personality dimension of teacher conceptual system or the EMR pupil race lend themselves to significant differences in teacher attitudes toward the instructional integration of EMR male pupils, the interaction of system

and pupil race does present a viable administrative consideration when a minority pupil is involved.

It is important to note that in the descriptive profile of the EMR pupil, excluding considerations of race and school behavior, the academic deficiencies characteristic of the mentally retarded did not appear to influence the subjects' responses to focus on any instructional dimension per se according to the results of the factor analysis. Perhaps this is indicative of the impact of increased technical skills of teachers in task analysis, multilevel approaches, and individualized instruction to adequately cope with exceptional pupils. The findings may also reflect an overriding concern of regular classroom teachers to master and utilize behavior management procedures and techniques to handle disruptive students. This study tends to support the conclusion that pupil behavior supercedes consideration of the integrated EMR child's race or instructional deficits.

Further research is needed to investigate the author's contention that regular classroom teachers would more positively accept the mainstreaming of EMR pupils if those teachers were more skillful in applying behavior management techniques and procedures. Another concern is the scope and severity of the disruptive behavior manifested by the integrated pupil and its effect on

teachers' attitudes. Defining behavior as a "problem" as perceived by regular classroom teachers may well be the perceptual product of value judgments as well as a composite of management ability and personality differences. Future research should also investigate the generalizability of this study's findings that led to the behavioral effect conclusion relative to other populations of exceptional children. Continued utilization of the LHII and its revised dimensionalities will further explore its construct validity with EMRs and other areas of exceptionality.

TABLE 1
THE DIMENSIONS, ITEMS, AND RELIABILITIES OF THE LEARNING
HANDICAPPED INTEGRATION INVENTORY

Factor	Items	Reliability	Split Half
Social-Psychological Classroom Environment	1, 3, 4, 5, 7, 12, 13, 15, 18, 19, 23, 25, 27, 29	.868	.838
Self-Actualization	2, 6, 11, 20, 22, 24, 26, 30, 31, 32, 34, 35, 36, 37	.888	.836
Cohesiveness	10, 14, 16, 17, 38, 39	.722	.756
Total Scale	(39)	.925	.887/.846

TABLE 2

SOURCE TABLE FOR INDEPENDENT VARIABLES ON LHII FACTOR ONE

Source	df	SS	F	P
System	1	110.9	0.98	ns
Race	1	66.7	0.59	ns
Behavior	1	14263.7	126.14	*
System x Race	1	574.6	5.08	**
System x Behavior	1	245.5	2.17	ns
Race x Behavior	1	0.3	0.00	ns
System x Race x Behavior	1	27.2	0.24	ns

*p < .0001

**p < .02

TABLE 3

SOURCE TABLE OF INDEPENDENT VARIABLES ON LHII FACTOR TWO

Source	df	SS	F	P
System	1	8.9	0.07	ns
Race	1	0.5	0.00	ns
Behavior	1	2054.1	16.27	*
System x Race	1	580.2	4.60	**
System x Behavior	1	17.1	0.14	ns
Race x Behavior	1	3.8	0.03	ns
System x Race x Behavior	1	66.3	0.53	ns

*p < .0001

**p < .03

TABLE 4

SOURCE TABLE OF INDEPENDENT VARIABLES ON LHII FACTOR THREE

Source	df	SS	F	P
System	1	46.3	1.67	ns
Race	1	38.9	1.41	ns
Behavior	1	3.2	0.12	ns
System x Race	1	153.6	5.56	*
System x Behavior	1	36.0	1.30	ns
Race x Behavior	1	0.7	0.03	ns
System x Race x Behavior	1	0.3	0.01	ns

*P < .01

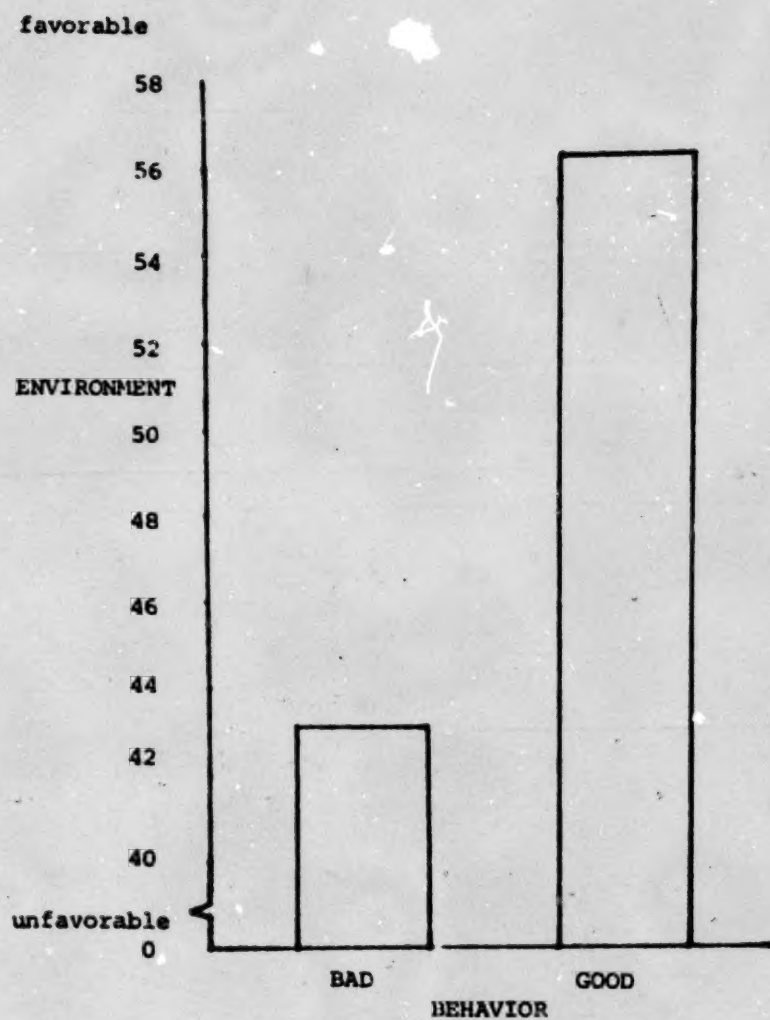


FIG. 1. THE EFFECT OF EMR PUPIL BEHAVIOR ON THE SOCIAL-PSYCHOLOGICAL CLASSROOM ENVIRONMENT

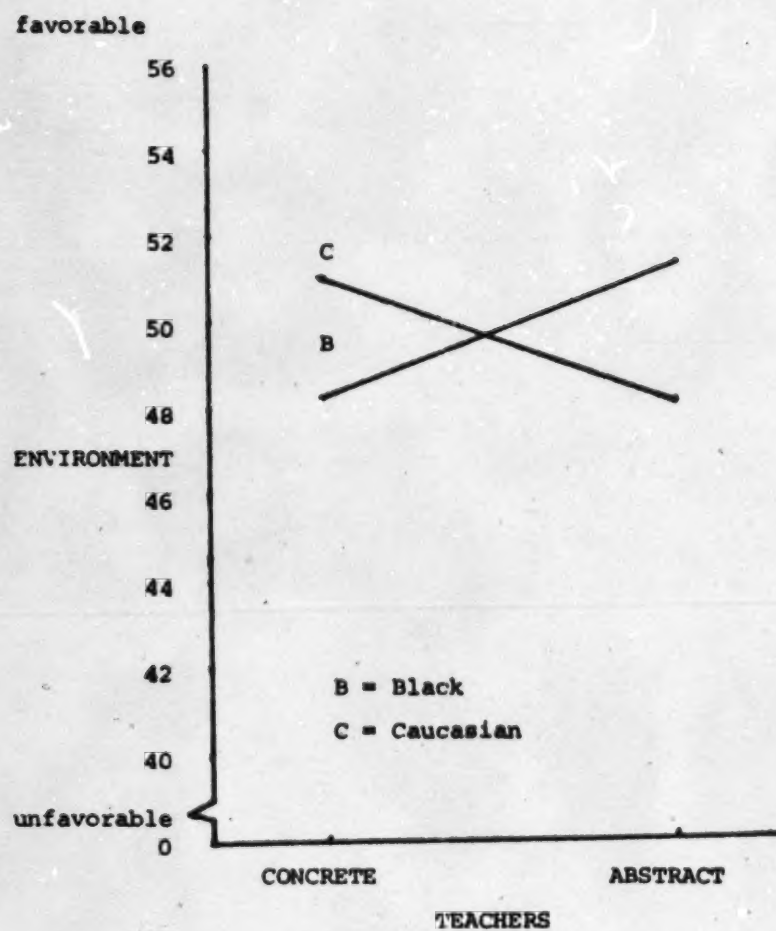


FIG. 2. THE EFFECT OF TEACHER CONCEPTUAL SYSTEM AND EMR PUPIL RACE ON THE SOCIAL-PSYCHOLOGICAL CLASSROOM ENVIRONMENT

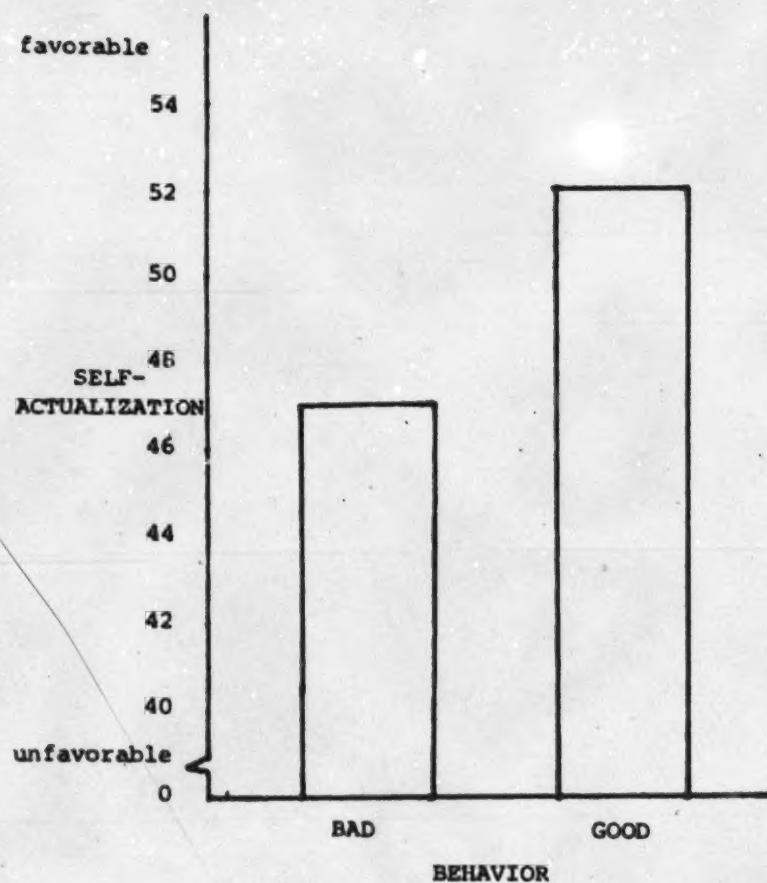


FIG. 3. THE EFFECT OF EMR PUPIL BEHAVIOR ON THE SELF-ACTUALIZATION POTENTIAL OF THE CLASSROOM INTEGRATION PARTICIPANTS

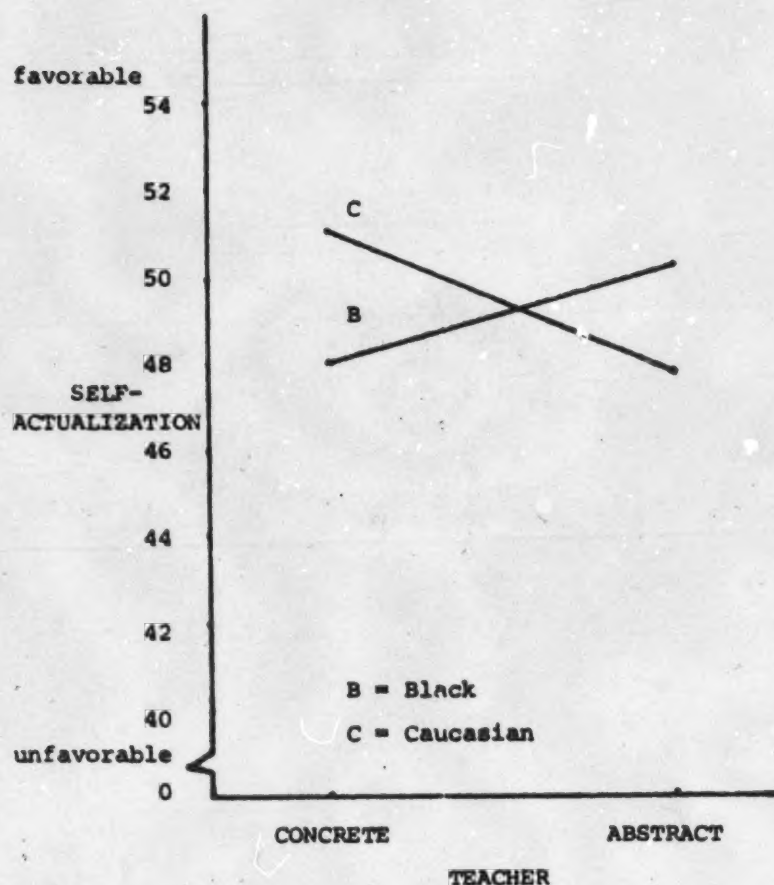


FIG. 4. THE EFFECT OF TEACHER CONCEPTUAL SYSTEM AND EMR PUPIL RACE ON THE SELF-ACTUALIZATION POTENTIAL OF THE CLASSROOM INTEGRATION PARTICIPANTS

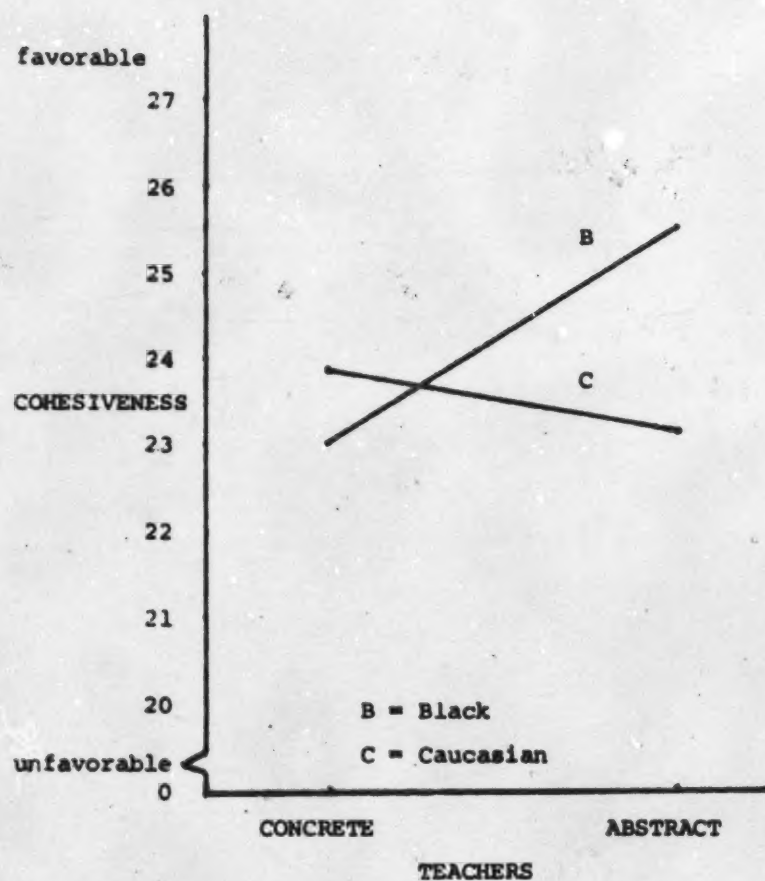


FIG. 5. THE EFFECT OF TEACHER CONCEPTUAL SYSTEM AND EMR PUPIL RACE ON CLASSROOM COHESIVENESS

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